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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,778	12/06/2001	Jack Harwood	EMC-01-087CIP(A)	5871

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EXAMINER

TRAN, NGHI V

ART UNIT

PAPER NUMBER

2151

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/010,778

Applicant(s)

HARWOOD ET AL.

Examiner

Nghi V Tran

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2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 1 and 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Interpretations***

1. In claims 1, 4, and 9, the applicants wrote "one or more interfaces that may be used to couple the adapter to the controller via a backplane in the first data storage system" (emphasis added). The examiner interprets "maybe" as "possibly but not certainly". Therefore, any limitation after the term "maybe" will not have any patentable weight.

The "maybe" limitation occurs many times in this application. For purpose of examination, the examiner only explains one specific claim interpretation as discussed above. All other "maybe" limitation will have the similar claim interpretations.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

3. Claims 1 and 3 are objected to because of the following informalities: "the adapter" is understood for --the network adapter-- and "the controller" is understood for --the data storage system I/O controller--. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sicola et al., U.S. Patent No. 6,643,795 (hereinafter Sicola).

6. With respect to claims 1, 4, 9, and 12, Sicola teaches a network adapter that may be used to interface to a network environment a data storage system input/output (I/O) controller, the controller residing in a first network data storage system, the network environment being external to the network data storage system (figs.1-4 and see abstract), the network adapter comprising:

- one or more interfaces (col.6, lns.33-52) that may be used to couple the network adapter to the controller via a backplane in the first data storage system;
- a switching system (103 i.e. switched fabric) that may be coupled to data exchanging devices in the network environment, the switching system being

coupled to the controller (201-202 or 211-212) when the one or more interfaces couple the network adapter to the controller; and

- port circuitry (107) that may be used to facilitate establishment of a link between the first network data storage system (111) and a second network data storage system (112) in the network environment, the second network data storage system being remote from the first network data storage system (fig.2), the link, when established, facilitating establishment of a target device in the second network data storage system as a data mirroring device (col.3, ln.56 - col.4, ln.32) that may comprise a mirror of data residing in a source device in the first network data storage system.

7. With respect to claims 2, 5, 10, and 13, Sicola further teaches the switching system comprises a fibre channel switching fabric (103).

8. With respect to claims 3 and 11, Sicola further teaches the adapter (107) is an electrical circuit card that is configured to be electrically and mechanically ("mechanically" is interpreted as "produced or operated by a machine") coupled to the backplane (fig.1-2; col.6, lns.45-62; and col.7, lns.16-60).

9. With respect to claims 6-7 and 14-15, Sicola further teaches the source device and target device comprise respective logical data volumes (fig.4 i.e. LUNs).

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10. With respect to claims 8 and 16, Sicola further teaches the second network data storage system is geographically remote (col.7, ln.61 - col.8, ln.17) from the first network data storage system (fig.2).

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. "Disk subsystem," by Aruga, U.S. Patent No. 6,542,954.
- b. "Method and apparatus for signaling between an optical cross-connect switch and attached network equipment," by Ramaswami, U.S. Patent No. 6,792,174.
- c. "Disk storage system including a switch," by Matsunami et al., U.S. Patent No. 6,542,961.
- d. "Optical switch," by Abushagur, U.S. Patent No. 6,385,364.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi V Tran  
Patent Examiner  
Art Unit 2151

NT

  
**ZARNI MAUNG**  
SUPERVISORY PATENT EXAMINER